Introduction/ Continuing Long Term Care Situation

- Touch screen technology is not always accessible (e.g., limited hand function)
- Customizing & flexibility is necessary (theory of inclusive design)
- Digital divide is less concerning
Background

Mobile devices are being used by older, frail adults

- communicate, connect, access information, leisure, monitor health, daily living
- Tecla Shield developed for wireless single switch access to mobile (touchscreen) devices
- native and customized scanning
- 2 younger adopters provided feedback on early version
- enabled agency for other devices
- learning was effortful
System Design

- blink
- drive
- press
- blow

use tecla to access

- call
- read
- search
- more
Research Questions

1) What are unique issues with touch technology use for frail elderly users?
2) What is the usability and acceptability of Tecla Shield with touch interfaces?
Methodology

- 5 case studies with Grace patients (participants who are blind, have MS, ALS & quadriplegia)
- Individual set ups & switch assessments
- Weekly technical support & system usability feedback via questionnaire and interviews
- Despite new technology being foreign and people fearing unable to learn, everyone learned switch control to some degree
Results & Discussion: Positive elements

Participants enjoyed doing something new or different (e.g., listening to audiobooks, using skype, texting):

- "It's opening up a whole new world to my ...
- "I was never able to send and receive text messages before."
- "It allows me to punch in numbers without using my hands like telephone banking and hands free talking or listening to books... never done that before."
Expanded knowledge:
● "There is a lot more in an iphone than I realized... I just thought about the cellphone part of it... there is so much more."

On-going learning and desire to learn:
● "I'm still learning you can do different things." - week 3
● "I want to learn more and practice."

Access to music:
● "...It went faster (therapeutic exercises) as I was concentrating on my music and not the exercises."
Connect to friends, family and broader community:

- "You hear everyone talking about Facebook and the stuff that people post... It’s cool to think that I can be a part of that."
- "My daughter and her 4 year old are excited to use Facetime to talk to me."
- "I'm able to connect with family and people I haven't seen for awhile."

Most continuing to use Tecla after study completion.
Results and Discussion: Challenges

- Customization
- Availability of learning support
- Equipment security
- Cord/charging management
- Coordinated support across circle of care
- Learning fear and time to practice
Concluding remarks

• frail elderly adults want to be connected and willing to spend effort to use mobile devices
• long learning curve and need for customization
• many apps partially or not accessible
Thank you

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